Abstract

A particle-optical apparatus is proposed as well as a method for operating the same. The particle-optical apparatus provides a magnetic field for deflecting charged particles of a beam of charged particles and comprises a body of a material with a permeability number around which a current conductor at least partially engages and a temperature-adjusting unit for adjusting a temperature of the magnetic-flux-carrying body substantially to a nominal temperature. A relative variation of the permeability number relative to a width of a temperature range is to be smaller than a limit value a, wherein a is preferably smaller than $3 \cdot 10^{-3} K^{-1}$. In particular, the nominal temperature is at an extremum of a temperature dependence of the permeability number. Preferably, such a particle-optical apparatus can be employed in a microscopy or a lithography apparatus.